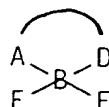


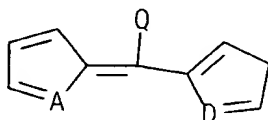
Claims

1. An organic light emitting diode device comprising a substrate bearing an organic layer sandwiched between electrode structures wherein the organic layer comprises a hole transporter, an electron transporter and a light emitter wherein the electron transporter or the light emitter or the electron transporter and the light emitter comprise a material of general formula I

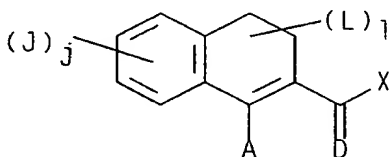


Formula I

wherein A — D is selected from the following:

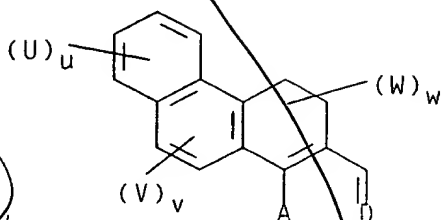


wherein A and D are both N, and the ring systems are, independently of each other, optionally substituted with one or two or three groups independently selected from C1 - C8 straight chain or branched chain alkyl or alkoxy; Q is CN or H or C₁₋₈ straight chain or branched chain alkyl;



wherein A and D are given by O or N, X is given by C₁₋₅ straight chain or branched chain alkyl or alkoxy and the ring systems are, independently of each other, optionally substituted with one or more groups J and L independently selected from C1 - C8 straight chain or branched chain alkyl or alkoxy wherein j is selected from 0-4 and l is selected from 0-2;

09031724.054504



wherein A and D are given by O or N and the ring systems are, independently of each other, optionally substituted with one or more groups U, V, W independently selected from C1 - C8 straight chain or branched chain alkyl or alkoxy wherein u is 0-4, v is 0-2 and w is 0-2;

characterised in that the organic layer is a single layer.

Sub 1
05031724-051501
2. A device according to claim 1 wherein at least one of the electrodes has an electrode modifying layer at the electrode/organic layer interface.

3. A device according to claim 2 wherein there are electrode modifying layers at both electrode/organic layer interfaces.

Sub A1
4. A device according to claim 2 or 3 wherein the electrode closest to the substrate is the anode.

Sub A2
5. A device according to claim 4 wherein the electrode modifying layer adjacent to the anode comprises either PEDOT or polyaniline.

6. A device according to claim 2 or 3 wherein the electrode furthest from the substrate is the cathode.

7. A device according to claim 5 or 6 wherein the electrode modifying layer adjacent to the cathode comprises either MgF_2 or LiF .

Sub 2
8. A device according to claim 7 wherein the cathode is made from Al, Al alloy, Mg or MgAg.

Sub A3
9. A device according to any of the preceding claims wherein the organic layer further comprises a semi-conducting polymer.

10. A device according to any of the preceding claims wherein the organic layer further comprises one or more charge transporting compounds.

sub AB

11. A device according to any of claims 1-8 wherein the organic layer further comprises a substantially non-conducting polymer and charge transporting compounds.

09031724.051501

Sub AB